

# 4 Connectivity Billing and Recording

## Definition

This section describes the settlement and dispute resolution procedures, billing format, and performance specifications to which ILECs must adhere under the interconnection agreement.

# Connectivity Billing and Recording

## Settlement and Dispute Resolution Procedures

- Billing disputes shall be escalated at no later than 60 and 90 days, and if not resolved within 120 days, should be resolved via formal dispute resolution procedures
- CLEC shall be reimbursed by ILEC for incorrect charges including without limitation:
  - overcharges
  - services not delivered or not delivered in a timely and accurate manner
  - interrupted services
  - services of poor quality
  - installation problems caused by ILEC

# Connectivity Billing and Recording

## Billing Format Standards

- ILEC shall provide a monthly connectivity bill
  - for charges not more than 90 days preceding (except as permitted by law)
  - that will be closed to analysis or further transactions (except audits) nine months after the Bill Date
- Connectivity charges will be billed in actual conversation seconds
- ILEC invoices will be presented in CABS or SECABS format (with sufficient rate element detail to allow CLEC to audit bills)
- All usage records will be transmitted electronically each day:
  - Via Electronic Interfaces, including but not limited to Connect Direct (NDM)
- Capital expenses associated with collocation shall be invoiced separately from connectivity charges

# Connectivity Billing and Recording

## Performance Measurements

- ILECs shall test electronic transmission prior to sending production connectivity bills
- ILECs shall meet timeliness performance specifications for the provision of Exchange Message Record (EMR) records
- ILECs shall meet accuracy performance specifications for both Usage and Connectivity billing
- ILECs shall meet completeness performance specifications for both Usage and Connectivity billing
- ILEC must provide reports detailing prescribed performance results for the ILEC itself, all CLECs on average, and the individual CLEC on at least a monthly basis with sufficient historical data to allow trending

# 5 Provision of Customer Usage Data

## Definition

This section describes the requirements for the ILEC's provision of recorded usage data to support subscriber billing.

# Provision of Customer Usage Data

## Recorded Usage Data

- Recorded usage data includes, but is not limited to the following:
  - call attempts
  - completed calls (no charges shall be incurred for incomplete call attempts)
  - use of CLASS/custom features
  - Information Service Provider (ISP) calls
  - IXC specific access usage
  - directory assistance calls via ILEC-provided service
  - CENTREX station level detail records
  - completed flat rate calls which the ILEC may not record for its own offerings
- Recorded usage data shall be transmitted to the CLEC daily
- ILECs shall not charge any fees for recording, rating or transmitting usage data
  - ILEC shall provide the transport facility for transmitting usage and billing data to the CLEC

# Provision of Customer Usage Data

## Controls and Lost Data

- ILEC shall perform operational and interface testing to ensure that usage records can be sent to the CLEC and accepted, extracted, and processed
- ILEC shall recover lost, damaged, or destroyed data resulting from its errors or omissions at no cost to the CLEC

# Provision of Customer Usage Data

## Performance Measurements

- ILECs shall meet performance standards for timeliness
- ILECs shall meet a 100% performance standard for complete transmission of all records, or face liability for lost revenue
- ILECs shall meet performance standards for accuracy
- ILECs shall meet performance standards for responsiveness
- ILEC must provide reports detailing prescribed performance results for the ILEC itself, all CLECs on average, and the individual CLEC on at least a monthly basis with sufficient historical data to allow trending



# 6 Maintenance

## Definition

This section describes the requirements for the ILEC's provision of repair, maintenance, testing and surveillance for all resale and unbundled network elements.

# Maintenance

## Service Parity

- ILEC service parity shall include, ensuring that CLEC subscribers:
  - receive response priority equal to that of ILEC subscribers
  - are handled on a “first come first served” basis along with ILEC subscribers
  - receive regularly scheduled maintenance for network elements equal in quality to that provided by the ILEC for its own network
- CLEC shall handle all interaction with CLEC subscribers, including, but not limited to:
  - scheduling technician visits
  - notifying the subscriber of trouble status and resolution

# Maintenance

## Emergency/Disaster Recovery Procedures

- ILEC shall provide the CLEC a description of all emergency restoration plans and disaster recovery plans, including, but not limited to:
  - immediate notification of outages
  - single point of contact for coordinating and restoring service
  - real-time access to status information
  - equal priority for CLEC and ILEC subscriber restoration efforts
  - methods and procedures for dispatch of mobile equipment
  - mutually developed escalation procedures
- ILEC shall inform CLEC of repair completion and trouble reason

# Maintenance

## System Interfaces

- ILEC shall cooperate with the CLEC to establish real-time, electronic interfaces that are seamless and transparent to CLEC personnel
  - electronic bonding shall be system to system connections with immediate update capabilities that do not cause CLECs to use ILEC systems via remote hook up or any other means of access
- Electronic interfaces shall permit the CLEC to perform activities, including but not limited to the following:
  - proactively identify potential service degradation
  - enter trouble reports
  - retrieve and track current status
  - receive estimated time to repair (ETTR) information real-time
  - retrieve all time and material charges at the time of ticket closure
  - receive automated notification of case closure
  - at CLEC's discretion, remotely perform mechanized line tests and obtain recommended course of action directly from ILEC systems
- ILEC shall work with the CLEC to support development of an industry standard trouble report entry format and implement such standard after final resolution by the ECIC

# Maintenance

## Performance Measurement and Reporting

- ILEC shall comply with performance standards related to:
  - answering incoming trouble reports from the CLEC
  - adhering to specified repair intervals for any out of service trouble ticket
  - restoring emergency network outages
  - restoring outages that require a premises visit
  - restoring outages that do not require a premises visit
  - repeat trouble report rates from the same subscriber
- ILEC must provide reports detailing prescribed performance results for the ILEC itself, all CLECs on average, and the individual CLEC on at least a monthly basis with sufficient historical data to allow trending

# 7 Miscellaneous Services and Functions

## Definition

This section describes the requirements for the ILEC's provision of 911, directory assistance, operator services, and directory listing services.

# Miscellaneous Services and Functions

## 911 and E911 Requirements

- ILEC shall use its service order process to update and maintain customer information in the Automatic Location Identification/Data Management System (ALI/DMS) database
  - the ALI database shall be managed by the ILEC, but open access shall be provided to all participating telephone companies
- CLEC may request that the ILEC provide 911 and E911 access through direct trunks from the CLEC to the E911 Public Safety Answering Point (PSAP)
- ILEC and the CLEC shall arrange for electronic transmission of the following:
  - daily changes and updates to the emergency public agency telephone numbers linked to all NPA-NXXs
  - CLEC subscriber ALI record information
- ILEC shall agree to treat all data on CLEC subscribers as strictly confidential and to use data only for the purpose of providing 911 services

# Miscellaneous Services and Functions

## Directory Assistance Requirements

- ILEC shall route directory assistance calls dialed by CLEC subscribers to either the CLEC or ILEC dialed access service platform as specified by the CLEC
- If the ILEC provides directory assistance services to CLEC subscribers, it shall provide the same level of service available to ILEC subscribers, including, but not limited to:
  - making service enhancements available to the CLEC on a non-discriminatory basis
  - providing the same level of support for provisioning directory assistance as the ILEC affords itself
  - providing same level of performance for number of rings to answer, average work time, etc.
  - at CLEC's discretion, branding
- Allowing CLEC subscribers the same dialing protocol (411/555-1212) to reach CLEC operator services as ILEC subscribers dial



# Miscellaneous Services and Functions

## Operator Service Requirements

- ILEC shall route local operator service calls dialed by CLEC subscribers directly to the CLEC or ILEC operator service platform as specified by the CLEC
- If the ILEC provides operator services to CLEC subscribers, it shall provide the same level of service available to ILEC subscribers, including, but not limited to:
  - allowing CLEC subscribers the same dialing protocol (O+/-) to reach CLEC operator services as ILEC subscribers dial
  - making service enhancements available to the CLEC on a non-discriminatory basis
  - providing the same level of fraud control that the ILEC affords itself
  - providing same level of performance for number of rings to answer
- Operator services provided by the ILEC to CLEC subscribers shall be branded as required by the CLEC
- ILEC shall provide an electronic feed of customer call records to the CLEC in Exchange Message Record (EMR) format
- ILEC shall permit the CLEC to interconnect its local operator systems with the ILEC's operator system to support Busy Line Verification/Interrupt services
- ILEC shall update the Line Information Data Base (LIDB) for CLEC subscribers as part of the service order process, or provide the CLEC with access to LIDB at no charge to update it directly

# Miscellaneous Services and Functions

## Directory Listing Requirements

- Implement the Ordering and Billing Forum (OBF) defined Directory Service Request process for ordering all directory listings, captions, and directory assistance updates
- ILEC shall accept real-time orders via an electronic interface to
  - receive CLEC subscriber information for inclusion in ILEC directory assistance and directory listing databases
  - receive CLEC subscriber information for inclusion in published directories
  - receive CLEC subscriber delivery address information to enable the ILEC to fulfill directory distribution obligations
- ILEC shall provide the ability for the CLEC to electronically query the ILEC listing system to view all listings real-time
  - ownership of each listing is to be masked
- ILEC shall not charge for storage of CLEC subscriber information
- ILEC shall not sell or license, nor allow any third party to use CLEC subscriber listings without the prior written consent of the CLEC
  - CLEC shall receive its pro-rata share of any amounts paid for such information
  - CLEC must be able to include in ILEC customer guide pages the CLEC's listing
- CLEC subscriber listings shall be interfiled with ILEC subscriber listings
  - at no charge, directory covers shall prominently indicate that CLEC listings are included in the directory
  - at the CLEC's option, CLEC customers shall receive a directory with a customized cover branded by the CLEC
- At CLEC's discretion, allow CLEC to bill directly for an enhanced white or yellow page advertisement



# **LOCAL COMPETITION USERS GROUP (LCUG)**

## **SERVICE QUALITY MEASUREMENTS (SQM)**

**Verison 4**

***Membership: AT&T, Sprint, MCI, LCI, WorldCom***

**LOCAL COMPETITION USERS GROUP  
(LCUG)**

**SERVICE QUALITY MEASUREMENTS (SQM)**

**May 22, 1997**

***Membership: AT&T, Sprint, MCI, LCI, WorldCom***

# **LCUG Service Quality Measurements (SQMs)**

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# LCUG Service Quality Measurements (SQMs)

## ***Introduction***

### **Background:**

On August 8, 1996, the Commission released its First Report and Order (the Order) in CC Docket No. 96-98 (Implementation of the Local Competition Provisions of the Telecommunications Act of 1996). The Order established regulations to implement the requirements of the Telecommunications Act of 1996. Those regulations are intended to enable potential competitive local exchange carriers (CLECs) to enter and compete in local telecommunications markets. The Commission found that nondiscriminatory access to operations support systems ("OSS") of incumbent local exchange carriers ("ILECs") was essential to successful market entry by CLECs. Access to operational support systems was to occur by January 1, 1997. Many variations of interim OSS graphic user interfaces ("GUIs") and electronic gateways have been or are being installed by the ILECs. These interim systems have not provided the capability for the CLECs to provide the same customer experience for their customers as the ILECs do for theirs. The timeliness and accuracy of information processed by the ILEC for pre-ordering, ordering and provisioning, maintenance and repair, unbundled elements, and billing have been less than the expected levels of service. This lack of service delivery does not differ between provisioning method, whether it is simply buying existing services on a wholesale basis to be resold or interconnection utilizing unbundled elements. Final solutions for application-to-application real time system interfaces are evasive because of the complexity, the diversity of commitment schedules to implement them and the lack of industry guidelines.

On February 12, 1997, the Local Competition Users Group (LCUG) issued their "Foundation For Local Competition: Operations Support Systems Requirements For Network Platform and Total Services Resale." The core principles are: Service Parity, Performance Measurement, Electronic Interfaces, Systems Integrity Notification of Change, and Standards Adherence. Each of these are significant to ensure that CLEC customers receive equal levels of service to those of ILEC customers. The LCUG group indicated that it was essential that a plan be developed to measure ILECs performance for all the essential OSS categories, e.g., pre-ordering, ordering and provisioning, maintenance and repair, network performance, unbundled elements, operator services and directory assistance, system performance, service center availability and billing. To that end, an LCUG sub-committee was formed to address measurements and metrics. The following document is the result of that activity. A comprehensive list of all measurements was initially developed and distributed to the team members for review. Each committee member was then assigned a section to investigate and propose recommendations back to the group. The group discussed each measurement and used present measurements criteria contained in regulatory requirements or good business practices to determine the final item and classes of service to be measured. The service quality measurement (SQM) goal was difficult to set because the group lacked historical trended data from the ILECs. The ILECs have been reluctant to share current performance over the past 12-18 months. The goals were drawn from best of class and/or good business practices. The SQM goal may change as the ILECs start sharing historical as well as actually self-reporting data benchmark by the ILEC, the CLEC, and the CLEC industry on a going forward basis.

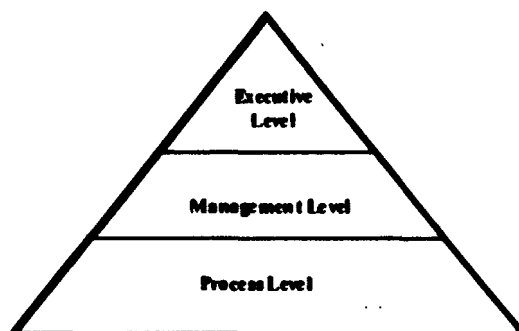
# LCUG Service Quality Measurements (SQMs)

## Measurement Plans:

A measurement plan must incorporate at least the following characteristics: 1) provide statistically valid and independently verifiable comparisons of the CLEC and CLEC industry experience to that of the ILEC; 2) account for potential performance variations due to differences in service and activity mix; 3) measure not only service measurements but also measures directed at UNEs in general and OSS interfaces; and 4) produce results which demonstrate the nondiscriminatory access to OSS functionality is being delivered across all interfaces and a broad range of resold services and unbundled elements. The measures must address interface availability, timeliness of execution, and accuracy of execution.

It is essential that the CLECs be able to determine that they are receiving equal treatment to that provided to the ILEC and its affiliates. Benchmarks and performance standards that are adopted by the CLECs and ILECs or ordered by commissions and reported will determine whether new service providers are receiving nondiscriminatory treatment. Benchmark comparisons should be self reported by the ILEC and reflect CLEC performance, ILEC performance and CLEC industry performance.

The measurements contained within this document addresses metrics at the executive level. There are several other levels of measurements that are used for the day-to-day activities as illustrated by the following simple diagram.



## Process Improvement:

In addition to the actual reporting of measurements there must be a commitment to take corrective action when poor performance or non-parity situations are identified. The ILECs need to self-report all measurements and analyze the results. Root cause analysis must be conducted and corrective actions taken to improve results or resolve issues. Corrective action steps, schedules and milestones should be developed by the ILEC and CLEC as appropriate to ensure timely implementation of corrective steps.



# LCUG Service Quality Measurements (SQMs)

ASSUMPTION: OSS FULLY IMPLEMENTED BY ILEC

## PRE-ORDER (PO)

Function	Measurement Objective	Proposed Service Quality Measurement
Timeliness of Providing Pre-Ordering Information	Measures the ILEC response time to a query for appointment scheduling, service & feature availability, address verification, request for Telephone Numbers (TNs) and Customer Service Records (CSRs). The query interval starts with the request message leaving the CLEC and ends with the response message arriving at the CLEC.	<p>&lt;2 seconds from the time the query is launched until the following data is received back (98% ≤ 2 sec &amp; 100% ≤ 5 sec):</p> <ul style="list-style-type: none"> <li>• Due Date Reservation</li> <li>• Feature Function Availability</li> <li>• Facility Availability</li> <li>• Street Address Validation</li> <li>• Service Availability Information</li> <li>• Appointment Scheduling</li> <li>• Customer Service Records</li> <li>• Telephone Number Assignments:               <ol style="list-style-type: none"> <li>1. ≤ 30 TNs ret'd in ≤ 2 sec 98% of time &amp; ≤ 5 sec 100% of time,</li> <li>2. &gt; 30 TNs ret'd &lt; 2 hours 100% of time</li> </ol> </li> </ul> <p><b>PO-1</b>  <math display="block">\frac{\text{\# of Responses Received on time}}{\text{Total \# of Queries Sent}} \times 100</math></p> <p><b>PO-2</b>  Mean Cycle Time</p>